

AGENDA

Assistant Administrator McCarthy and Chairman Wellinghoff

August 26, 2011

- I. Review of Clean Air Act Rulemakings – Cross-State Air Pollution Rule (CSAPR) and Mercury and Air Toxics Rule (MATS)
- II. Current Status of Rules and Implementation
- III. Current Issues and Timeline
- IV. EPA-DOE Modeling
- V. Reliability
- VI. Communications and Technical Assistance and Collaboration



Addressing the Air Pollution Impacts of the Power Sector

**Presentation to
FERC Commissioner Wellinghoff
August 26, 2011**

**By
the Environmental Protection Agency**



Context

- EPA has recently proposed and/or promulgated Clean Air Act regulations to reduce a range of air pollutants.
- The regulations address years of uncertainty (in some cases decades) and are designed to address harmful pollution and other impacts under existing law and mandates established by Congress.
- For the most part the rules respond to Court mandate and direction.
 - The final Cross-State Air Pollution Rule (CSAPR) replaces the 2005 Clean Air Interstate Rule remanded by the DC Circuit Court of Appeals.
 - The Mercury and Air Toxics Standards (MATS) rule will replace the 2005 Clean Air Mercury Rule that the Court vacated; the rulemaking schedule was set in a settlement agreement approved by the Court.
- The benefits to public health are very substantial. The air rules are anticipated to provide at least \$180 to \$430 billion in annual benefits by 2015, largely from the prevention of between 21,000 to 53,000 premature deaths.



Overview of Proposed Rules

	Coverage	Proposed	Final
Cross-State Air Pollution Rule	SO ₂ & NO _x (for PM and ozone), Eastern half of U.S.	July 2010	July 2011
Mercury and Air Toxics Standards	Hazardous Air Pollutants, Nationwide	March 2011	November 2011



Cross-State Air Pollution Rule Overview

Scope: Addresses nonattainment and regional transport of air emissions across state borders (SO_2 and NO_x)

Coverage: Fossil-fuel fired units > 25 MW in eastern half of the U.S.

Compliance: Phase I in 2012, Phase II in 2014

Other:

- Designed to replace the Clean Air Interstate Rule (CAIR)
- Final remedy is a flexible market-based mechanism
- 2012 compliance builds largely off controls already in place and under construction



Many Benefits Achieved with Modest Impact

- The \$800 million (2007 \$) spent annually on this rule in 2014, along with the roughly \$1.6 billion per year in capital investments already under way as a result of CAIR, are improving air quality for over 240 million Americans.
- Modest costs mean small effects on electricity generation. EPA estimates that in 2014:
 - Average monthly household electricity bill increases by 1 percent.
 - Natural gas prices increase less than 1 percent.
 - Small changes in power generation.
- Coal retirements projected to be about 4.8 GW of incremental coal capacity retirements by 2014 (None projected in 2012).

Health Benefits for Millions of Americans



- EPA estimates the annual benefits from the rule range between \$120-\$280 billion (2007 \$) in 2014.
 - Most of these benefits are public health-related.
 - \$4 billion are attributable to visibility improvements in areas such as national parks and wilderness areas.
- Other non-monetized benefits include reductions in acidification of lakes, streams and forests and in eutrophication of estuaries and coastal waters.

Estimated Number of Adverse Health Effects Avoided under the Cross-State Air Pollution Rule*

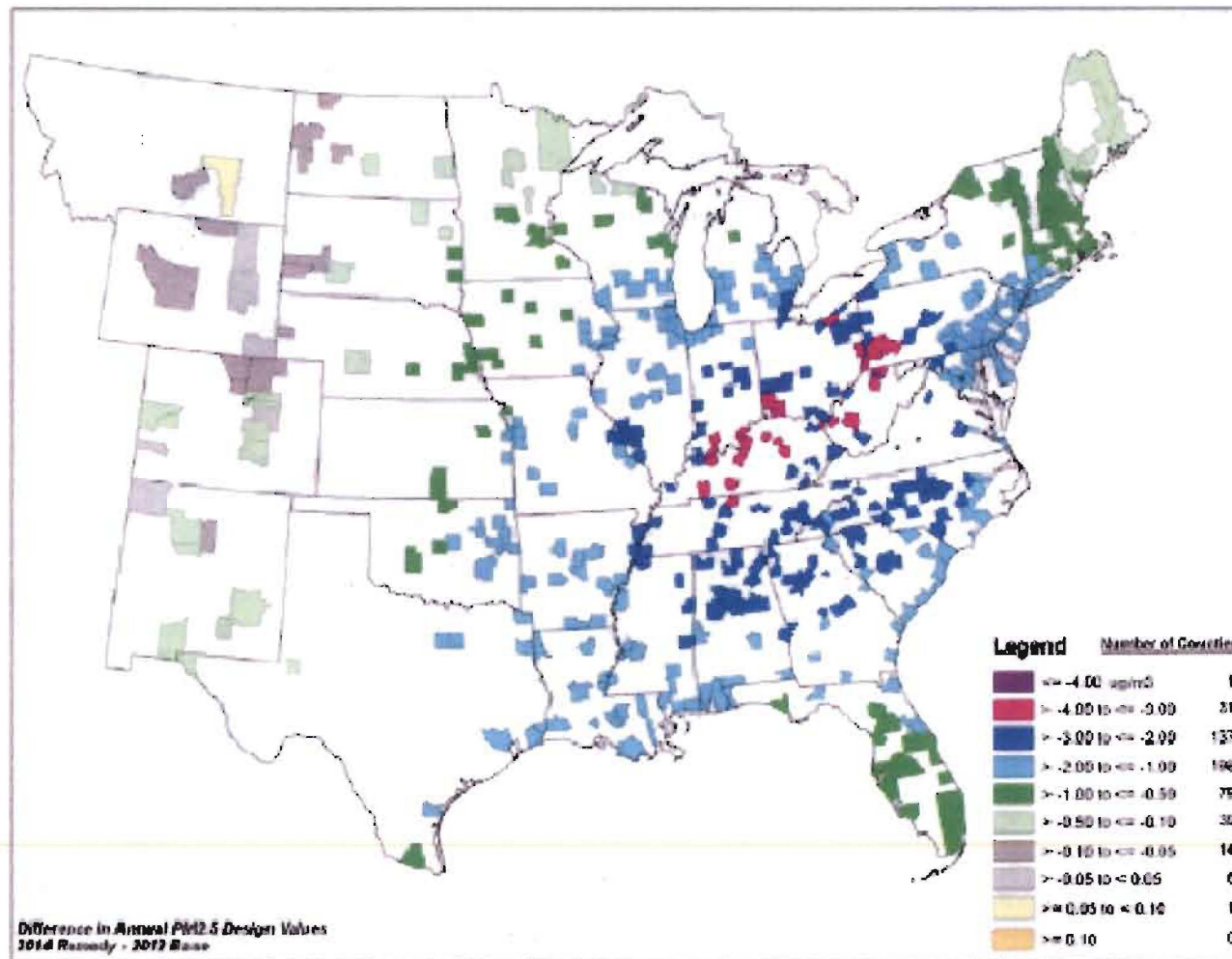
Health Effect	Annual Number of Cases Avoided
Premature mortality	13,000 to 34,000
Non-fatal heart attacks	15,000
Hospital and emergency department visits	19,000
Acute bronchitis	19,000
Upper and lower respiratory symptoms	420,000
Aggravated asthma	400,000
Days when people miss work or school	1.8 million

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* Impacts avoided due to improvements in PM_{2.5} and ozone air quality in 2014.

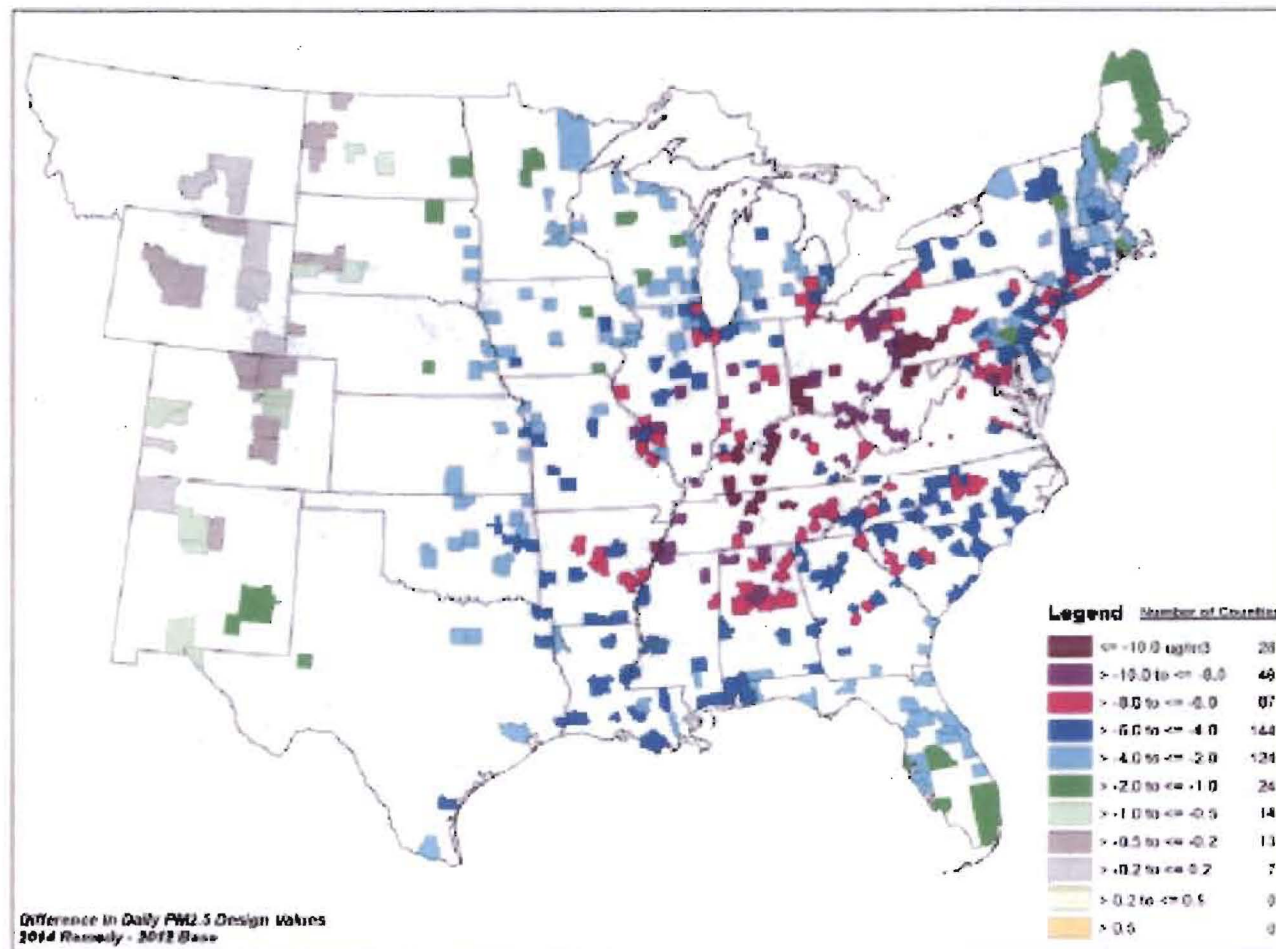


2014 Remedy – 2012 Base Case Difference in Annual PM_{2.5} Concentrations



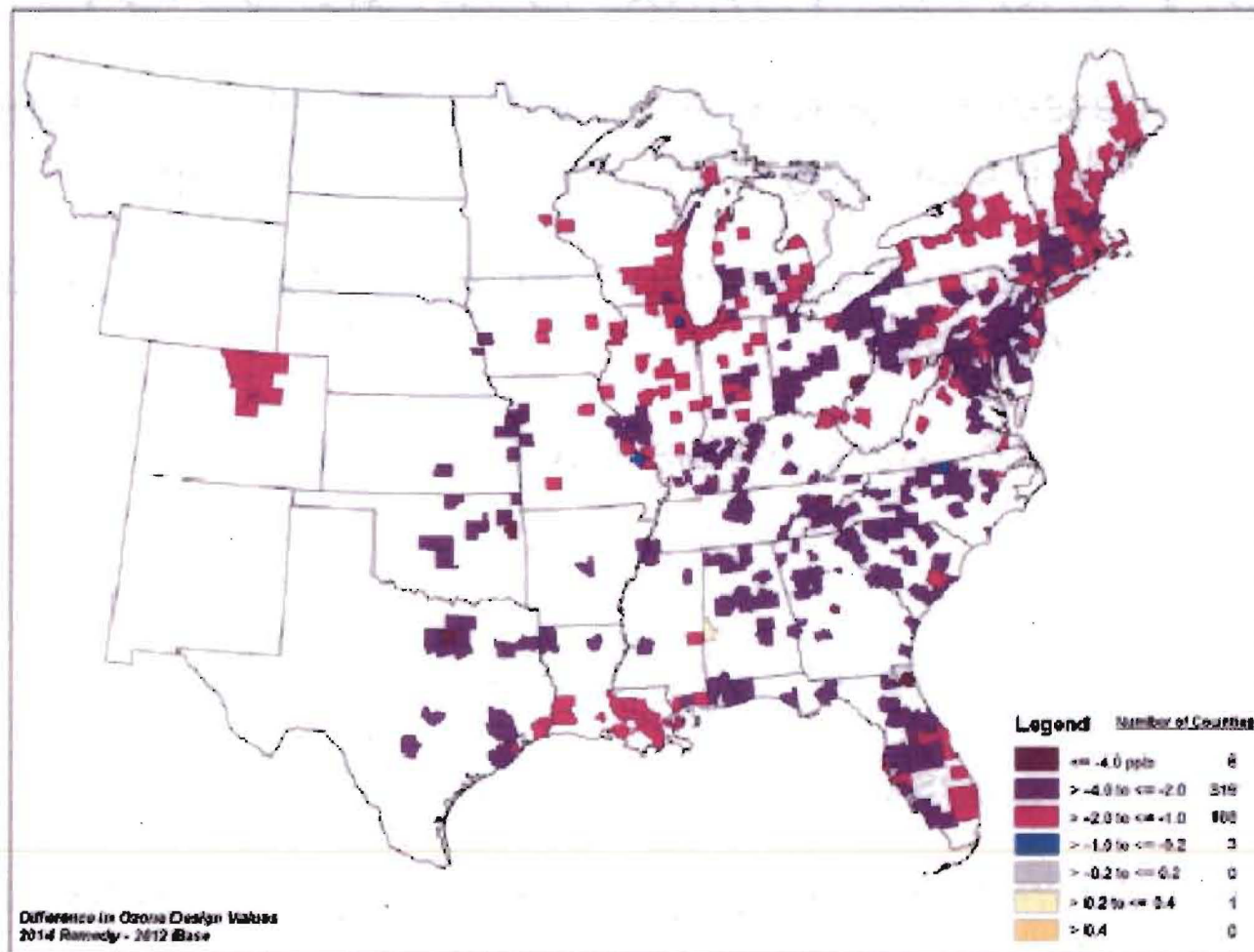


2014 Remedy – 2012 Base Case Difference in 24-Hour PM_{2.5} Concentrations





2014 Remedy – 2012 Base Case Difference in 8-Hour Ozone Concentrations





Mercury and Air Toxics Standards Overview

Scope: Addresses emissions of hazardous air pollutants (mercury, non-Hg metals (e.g., Pb, Cd, As), and acid gases)

Coverage: Coal and oil steam electric generating units > 25 MW, nationwide

Compliance: 2016, with possible 1-year extension

Other:

- Provides flexibility through facility-level compliance
- Uses surrogates to control for certain HAPs
- Emission limits based upon engineering performance standards



Mercury and Air Toxics Standards Impacts

Annual Cost: \$10.9 billion* in 2015

Other Impacts:

- Electricity price increase: 3.7% in 2015, 2.6% in 2020
- Will result in substantial upgrading of coal-fired units that have not yet installed advanced pollution controls
- Coal retirements: 10 gigawatts in 2015 (mostly smaller, less efficient units)

* In 2007 dollars.



There is a “Train-wreck” of Analyses

Over a dozen studies have been released that attempt to assess the impacts of EPA rules.

- **Speculative:** All of them are based upon subjective judgments concerning EPA policy, since the Mercury and Air Toxics Rule has been only recently proposed.
- **Pessimistic:** The analyses tend to either be static in nature (NERC) or have limited and expensive technology representation for HAP reductions (almost all studies). Some assume an overly aggressive compliance schedule or do not account for different categories of facilities.
 - The few studies that include less stringent alternate scenarios and improved technology representation show less overall impact.
- **Compliance Flexibility Missing:** Analyses often do not include the flexibility that EPA has incorporated into proposed rules.
- **Reporting Total Generation Unit Closures:** The current market-driven closures are combined with an assessment of those closures from EPA's future rules.



Expert Studies Find Robust Reliability under Regulations

Bipartisan Policy Center report identified a variety of significant flaws in many of the previous industry studies of reliability and concluded that “scenarios in which electric system reliability is broadly affected are unlikely to occur.”

Congressional Research Service study recently concluded that there is a substantial amount of excess generation capacity at present, due in part to the recession and also due to the large number of natural gas combined cycle plants constructed in the last decade, muting reliability concerns.

Clean Energy Group study concluded that even though some units likely will retire in lieu of complying with the new regulations, electric system reliability will not be compromised if the industry and its regulators proactively manage the transition to a cleaner, more efficient generation fleet. EPA, FERC, DOE, and state utility regulators, both together and separately, have an array of tools to moderate impacts on the electric industry.



Moving Forward

- The studies show a lot of stakeholder interest and the desire to focus on compliance.
- EPA's primary rules covering the power sector over the next several years are now proposed and out for public comment.
- EPA is pursuing a reasonable approach to provide ample flexibility where possible.
- EPA's recent analysis indicates reserve margins are quite large in many parts of the U.S.
- To ensure a smooth path towards compliance, stakeholders need to engage sooner, rather than later, and begin to prepare for these rules now.
- EPA will work closely with state and local officials, industry, and other stakeholders to ensure that the suite of tools needed to respond are fully utilized.
 - These measures include harnessing energy efficiency, ensuring that new sources of cleaner energy are brought online smoothly, supporting the timely addition of pollution controls, and identifying and dealing with potential challenges early in the process. These tools, like energy efficiency, can also help mitigate the costs and improve effectiveness.